Material Safety Data Sheet
Version 1.0 | Creation Date: 08/07/2017 | Updated: 06/10/2017

1. PRODUCT AND COMPANY IDENTIFICATION

1.1 Product identifiers

- **Product name**: BGTurbo®, High Efficiency Recombinant β-Glucuronidase
- **Product Number**: BGT
- **Brand**: Kura Biotec
- **Product use**: For laboratory research purposes.
- **Supplier**: La Piedra Biotecnología Spa
  Gnechen
  Puerto Varas 5551114
  Chile
- **Manufacturer**: La Piedra Biotecnología Spa
  Gnechen
  Puerto Varas 5551114
  Chile
- **Telephone**: T +569 8233 6932
- **Emergency Phone**: T +569 8233 6932 (For both supplier and manufacturer)
- **Imported by**: LifeLabs
  100 International Blvd
  Toronto, ON M9W 6J6
  T 416-675-4530
  Canada

2. HAZARDS IDENTIFICATION

**Emergency overview**

**Target Organs**
Kidney

**WHMIS Classification**

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>D2A</td>
<td>Very Toxic Material Causing Other Toxic Effects</td>
</tr>
<tr>
<td>D2B</td>
<td>Toxic Material Causing Other Toxic Effects</td>
</tr>
</tbody>
</table>

**GHS Classification**

- Skin irritation (Category 3)
- Eye irritation (Category 2B)
Respiratory sensitisation (Category 1)
Skin sensitisation (Category 1)

GHS Label elements, including precautionary statements

Pictogram

Signal Word Danger

Hazard statement(s)

H316 Causes mild skin irritation.
H317 May cause an allergic skin reaction.
H320 Causes eye irritation.
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Precautionary statement(s)

P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
P280 Wear protective gloves.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P342 + P311 If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician.

HMIS Classification

Health hazard: 2
Chronic Health Hazard: *
Flammability: 0
Physical hazards: 0

Potential Health Effects

Inhalation May be harmful if inhaled. May cause respiratory tract irritation.
Skin May be harmful if absorbed through skin. May cause skin irritation.
Eyes May cause eye irritation.
Ingestion May be harmful if swallowed.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Synonyms : β-D-Glucuronide glucuronosohydrolase

<table>
<thead>
<tr>
<th>CAS-No.</th>
<th>EC-No.</th>
<th>Index-No.</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gucuronidase, β-</td>
<td>9001-45-0</td>
<td>-</td>
<td>50%</td>
</tr>
<tr>
<td>Glycerol</td>
<td>232-606-8</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td></td>
<td>200-289-5</td>
<td>-</td>
<td>50%</td>
</tr>
</tbody>
</table>

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4. FIRST AID MEASURES

**General advice**
Consult a physician. Show this safety data sheet to the doctor in attendance.

**If inhaled**
If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

**In case of skin contact**
Wash off with soap and plenty of water. Consult a physician.

**In case of eye contact**
Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

**If swallowed**
Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

5. FIREFIGHTING MEASURES

**Conditions of flammability**
Not flammable or combustible.

**Suitable extinguishing media**
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

**Special protective equipment for firefighters**
Wear self-contained breathing apparatus for firefighting if necessary.

**Hazardous combustion products**
Hazardous decomposition products formed under fire conditions. - Carbon oxides

** Explosion data - sensitivity to mechanical impact**
No data available

**Explosion data - sensitivity to static discharge**
No data available

6. ACCIDENTAL RELEASE MEASURES

**Personal precautions**
Use personal protective equipment. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas.

**Environmental precautions**
Do not let product enter drains. Methods and materials for containment and cleaning up Soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal.

7. HANDLING AND STORAGE

**Precautions for safe handling**
Avoid contact with skin and eyes. Avoid inhalation of vapour or mist.
Conditions for safe storage
Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Recommended storage temperature -20 °C

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Value</th>
<th>Control parameters</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glycerol</td>
<td>56-81-5</td>
<td>TWA</td>
<td>10 mg/m³</td>
<td>Canada, Alberta, Occupational Health and Safety Code (table 2: OEL)</td>
</tr>
</tbody>
</table>

Remarks: Occupational exposure limit is based on irritation effects and its adjustment to compensate for unusual work schedules is not required.

<table>
<thead>
<tr>
<th></th>
<th>Value</th>
<th>Control parameters</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>10 mg/m³</td>
<td></td>
<td>Québec, Regulation respecting occupational health and safety, Schedule 1, Part 1: Permissible exposure values for airborne contaminants</td>
</tr>
<tr>
<td>TWA</td>
<td>10 mg/m³</td>
<td></td>
<td>Canada, British Columbia OEL</td>
</tr>
<tr>
<td>TWA</td>
<td>3 mg/m³</td>
<td></td>
<td>Canada, British Columbia OEL</td>
</tr>
<tr>
<td>TWA</td>
<td>10 mg/m³</td>
<td></td>
<td>USA, ACGIH Threshold Limit Values (TLV)</td>
</tr>
</tbody>
</table>

Personal protective equipment

Respiratory protection
Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Hand protection
Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Eye protection
Face shield and safety glasses. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin and body protection
Complete suit protecting against chemicals. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Hygiene measures
Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Specific engineering controls
Use mechanical exhaust or laboratory fume hood to avoid exposure.
9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance
Form Aqueous solution
Colour No data available

Safety data
pH No data available
Melting point/freezing point No data available
Boiling point No data available
Flash point No data available
Ignition temperature No data available
Auto-ignition temperature No data available
Lower explosion limit No data available
Upper explosion limit No data available
Vapour pressure No data available
Density No data available
Water solubility No data available
Partition coefficient: n-octanol/water No data available
Relative vapour density No data available
Odour No data available
Odour Threshold No data available
Evaporation rate No data available

10. STABILITY AND REACTIVITY

Chemical stability
Stable under recommended storage conditions.

Possibility of hazardous reactions
No data available

Conditions to avoid
No data available

Materials to avoid
Strong oxidizing agents

Hazardous decomposition products
Hazardous decomposition products formed under fire conditions. - Carbon oxides
Other decomposition products - No data available

11. TOXICOLOGICAL INFORMATION

Acute toxicity
Oral LD50
No data available
Inhalation LC50
No data available
Dermal LD50
No data available

Other information on acute toxicity
No data available

**Skin corrosion/irritation**
No data available

**Serious eye damage/eye irritation**
Eyes: No data available

**Respiratory or skin sensitisation**
No data available

**Germ cell mutagenicity**
No data available

**Carcinogenicity**

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

**Reproductive toxicity**
No data available

**Teratogenicity**
No data available

**Specific target organ toxicity - single exposure (Globally Harmonized System)**
No data available

**Specific target organ toxicity - repeated exposure (Globally Harmonized System)**
No data available

**Aspiration hazard**
No data available

**Potential health effects**

**Inhalation** May be harmful if inhaled. May cause respiratory tract irritation.

**Ingestion** May be harmful if swallowed.

**Skin** May be harmful if absorbed through skin. May cause skin irritation.

**Eyes** May cause eye irritation.

**Signs and Symptoms of Exposure**
To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

**Synergistic effects**
No data available

**Additional Information**
RTECS: Not available

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12. **ECOLOGICAL INFORMATION**

**Toxicity**
No data available

**Persistence and degradability**
No data available

**Bioaccumulative potential**
No data available
Mobility in soil
No data available

PBT and vPvB assessment
No data available

Other adverse effects
No data available

13. DISPOSAL CONSIDERATIONS

Product
Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

Contaminated packaging
Dispose of as unused product.

14. TRANSPORT INFORMATION

DOT (US)
Not dangerous goods
IMDG
Not dangerous goods
IATA
Not dangerous goods

15. REGULATORY INFORMATION

WHMIS Classification

D2A Very Toxic Material Causing Other Toxic Effects Respiratory sensitizer
D2B Toxic Material Causing Other Toxic Effects Skin sensitiser

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

16. OTHER INFORMATION

Further information

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